

IN THE CLAIMS

Please cancel claims 24 – 31 and add new claims 32-51.

32. A method for optimizing a network's configuration, comprising the steps of:

collecting pilot strength measurements for each base station included in said network;

saving said pilot strength measurements in a database, wherein said pilot strength measurements are saved regardless of the measurement value;

requesting a majority of said saved pilot strength measurements from said database;

compiling said pilot strength measurements for said each base station;

saving compiled pilot strength messages in a database; and

modifying the transmission characteristics of said each base station in accordance with said compiled pilot strength measurements.

33. The method in accordance with claim 32, further comprising the step of using said compiled pilot strength measurements to simulate a cellular network.

34. The method in accordance with claim 32, wherein compiling said pilot strength measurements comprises the steps of:

determining an average energy for said pilot strength measurements for said each base station;

determining a maximum energy for a one of said pilot strength measurements for said each base station; and

determining a minimum energy for a one of said pilot strength measurements for said each base station.

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35. The method in accordance with claim 34, further comprising the steps of:

analyzing the data compiled for said each base station to determine if said data indicates that a reliable communication between a mobile station and said each base station may be maintained;

if a reliable communication with said mobile station cannot be maintained by at least one of said each base station, then:

determining if said at least one of said each base station is in

a neighbor list of said mobile station; and

communicating to said mobile station to remove said at least one of said each base station from said neighbor list.

36. The method in accordance with claim 32, further comprising modifying the transmission characteristics of at least one of said each base station by changing the location of said at least one of said each base station.

37. The method in accordance with claim 32, further comprising modifying the transmission characteristics of at least one of said each base station by adjusting the spatial characteristics of an antenna used to transmit a signal from said at least one of said each base station.

38. A method to optimize a network's configuration, comprising the steps of:

setting a set of parameters of a cellular network to optimize said cellular network;

operating said cellular network for a predetermined interval;

compiling strengths of pilot signals received at a mobile station and caused by said operating, said compilation resulting in a pilot strength message;

communicating said pilot signal strength message from said mobile station to another station;

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saving data to a database from said received pilot signal strength messages during said predetermined interval; and
revising said set of parameters in accordance with said data.

39. An apparatus for optimizing a wireless communication network's configuration, comprising:

means for collecting pilot strength measurements for each base station included in the network;

means for saving the pilot strength measurements to a database, wherein the pilot strength measurements are saved regardless of the measurement value;

a means for requesting a majority of the saved pilot strength measurements from the database;

a means for compiling the pilot strength measurements for each base station; and

a means for modifying the transmission characteristics of each base station in accordance with the compiled pilot strength measurements

40. The apparatus in accordance with claim 39, wherein the means for compiling the pilot strength measurements further comprises:

means for determining an average energy for the pilot strength measurements for said each base station, a maximum energy for a one of the pilot strength measurements for each base station, and a minimum energy for a one of the pilot strength measurements for each base station.

41. The apparatus in accordance with claim 40, wherein the means for compiling the pilot strength measurements further comprises:

means for analyzing the data compiled for each base station to determine if the data indicates that a reliable communication between a mobile station and each base station may be maintained;

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if a reliable communication with mobile station cannot be maintained by at least one of the each base station, then determining if the at least one of the each base station is in a neighbor list of the mobile station.

42. The apparatus in accordance with claim 41, further comprising:
a means for communicating to said mobile station to remove the at least one of the each base station from the neighbor list.

43. The apparatus in accordance with claim 42, further comprising a means for modifying the transmission characteristics of at least one of said each base station by adjusting the spatial characteristics of an antenna used to transmit a signal from the at least one of the each base station.

44. A apparatus to optimize a network's configuration, comprising:
means for setting a set of parameters of a cellular network, wherein the network is operated for a predetermined interval;
means for measuring strengths of pilot signals received at a mobile station included in the network configuration;
means for communicating a pilot signal strength message from the mobile station to another station;
means for saving data to a database from the received pilot signal strength messages during the predetermined interval, the messages collected and saved regardless of the pilot signal strength; and
means for revising the set of parameters in accordance with the data from received pilot strength measurement messages.

45. An apparatus for optimizing a wireless communication network's configuration, comprising:
a signal processing device for collecting pilot strength measurements for each base station included in the network;

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a storage device communicatively connected to the signal processing device and used to save the pilot strength measurements, wherein the pilot strength measurements are saved regardless of the measurement value;

wherein the signal processing device can request a majority of the saved pilot strength measurements from the database when desired, compile the pilot strength measurements for each base station, and cooperate in modifying the transmission characteristics of each base station in accordance with the compiled pilot strength measurements.

46. The apparatus in accordance with claim 45, wherein the signal processing device further determines an average energy for the pilot strength measurements for each base station, a maximum energy for a one of the pilot strength measurements for each base station, and a minimum energy for a one of the pilot strength measurements for each base station.

47. The apparatus in accordance with claim 46, wherein the signal processing device analyzes the data compiled for each base station to determine if the data indicates that a reliable communication between a mobile station and each base station may be maintained,

and if a reliable communication with mobile station cannot be maintained by at least one of the each base station,

then determining if the at least one of the each base station is in a neighbor list of the mobile station.

48. The apparatus in accordance with claim 47, further comprising a transmitter coupled to the signal processing device and used to communicate to the mobile station a command to remove the at least one of the each base station from the neighbor list.

49. The apparatus in accordance with claim 48, further comprising:

an antenna coupled to the transmitter and used to transmit a signal from the at least one of the base stations, wherein the transmission characteristics of the at least one of the base stations is adjusted by changing the spatial characteristics of the antenna.

50. An apparatus to optimize a network's configuration, comprising:

a signal processing unit used to establish a set of parameters for a cellular network, wherein the cellular network is operated for a predetermined interval;

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a measuring unit communicatively coupled to the signal processing unit used to measure the strengths of pilot signals received at a mobile station included in the cellular network configuration;

a transmitter communicatively coupled to the signal processing unit and used to communicate a pilot signal strength message from the mobile station to another station; and

a storage unit coupled to the measuring unit and used to save data from the received pilot signal strength messages during the predetermined interval, wherein the messages are collected and saved regardless of the pilot signal strength, and

wherein the signal processing unit revises the set of parameters for the cellular network in accordance with the data received from the pilot strength measurement messages.

51. The apparatus in accordance with claim 50, wherein the signal processing unit includes the measuring unit.
